Appendix 3. Alternatives Considered but Not Analyzed in Detail

Population Growth Suppression without Removals
This alternative would not meet the purpose and need to achieve population objectives. It would not allow for population regulation by removing wild horses to achieve and maintain AML within the Bible Spring Complex. Wild horse management under this alternative would involve gathering and inoculating mares with PZP or other population growth suppression vaccines as outlined in the Proposed Action. Gather, data collection, and handling techniques would be followed in accordance with the Proposed Action. Mares inoculated during the winter of 2022 and other years the vaccine was administered would foal normally in the spring following treatment. Reproduction would be limited the following year or years after treatment.

The current wild horse population within the Blawn Wash HMA and Bible Spring Complex exceeds the AML as established in the Pinyon MFP. The current AML numbers are established in the April 2005 Decision Record for the Bible Springs, Blawn Wash, Four Mile and Tilly Creek Wild Horse Appropriate Management Level Assessment, EA UT-040-2004-0047. Implementing population growth suppression without removing excess wild horses would not address the immediate need of achieving AML and a TNEB. Population modeling shows that using this alternative with the currently available population growth suppression tools would not control the population of wild horses and would not be in conformance with the WFRHBA and Pinyon MFP. The WFRHBA mandates the BLM to prevent the range from deterioration associated with overpopulation and preserve and maintain a TNEB in consideration with multiple use relationships.

Remove or Reduce Livestock Within the HMAs
This alternative would involve no removal of wild horses and would instead address excess wild horse numbers through removal or reduction of livestock within the HMAs. In essence, this alternative would simply exchange use by livestock for use by wild horses. This alternative was not brought forward for analysis because it is inconsistent with the Pinyon MFP, the Decision Record for EA-UT-040-04-47 and the WFRHBA which directs the Secretary to immediately remove excess wild horses.

The proposal to reduce livestock would not meet the Purpose and Need for action identified in Section 1.2: “to implement actions that would achieve and maintain the wild horse population within established AML over a period of 10 years and help the BLM in achieving and maintaining a TNEB on these public lands. The BLM’s need for agency action is to prevent undue or unnecessary degradation of the public lands associated with excess wild horses, allow for recovery of degraded range resources, and to restore a TNEB and multiple-use relationship on public lands, consistent with the provisions of section 1333(b) of the WFRHBA.

Eliminating or reducing grazing in order to shift forage use to wild horses would not be in conformance with the existing Land Use Plan and is contrary to the BLM’s multiple-use mission as outlined in FLPMA and would be inconsistent with the WFRHBA and PRIA. It was Congress’ intent to manage wild horses and burros as one of the many uses of the public lands, not a single use. Therefore, the BLM is required to manage wild horses and burros in a manner designed to

achieve a TNEB between wild horse and burro populations, wildlife, domestic livestock, vegetation and other uses.

Information about the Congress' intent is found in the Senate Conference Report (92-242) which accompanies the 1971 WFRHBA (Senate Bill 1116): "*The principal goal of this legislation is to provide for the protection of the animals from man and not the single use management of areas for the benefit of wild free-roaming horses and burros. It is the intent of the committee that the wild free-roaming horses and burros be specifically incorporated as a component of the multiple-use plans governing the use of the public lands.*"

Furthermore, simply re-allocating livestock Animal Unit Months (AUMs) to increase the wild horse AMLs would not achieve a TNEB. Wild horses are unlike livestock which can be confined to specific pastures, limited to specific periods of use, and specific seasons-of-use so as to minimize impacts to vegetation during the critical growing season and to riparian zones during the summer months. Wild horses are present year-round and their impacts to rangeland resources cannot be controlled through establishment of a grazing system, such as for livestock. Thus, impacts from wild horses can only be addressed by limiting their numbers to a level that does not adversely impact rangeland resources and other multiple uses.

Livestock grazing can only be reduced or eliminated through provisions identified within regulations at 43 CFR § 4100 and must be consistent with multiple use allocations set forth in Land Use Plans (LUPs)/RMPs. Such changes to livestock grazing cannot be made through a wild horse gather decision and are only possible if BLM first revises the LUPs to allocate livestock forage to wild horses and to eliminate or reduce livestock grazing. Because this alternative is inconsistent with the Tonopah RMP, it would first require an amendment to the RMP, which is outside the scope of this EA.

Gather Wild Horses to the AML Upper Limit

A post-gather population size at the upper level of the AML range for the Complex (80 to 170) would result in the AML being exceeded the next foaling season (March 1 – June 30). This would be unacceptable for several reasons, including that it does not meet the purpose and need.

The AML represents "that 'optimum number' of wild horses which results in a thriving natural ecological balance and avoids a deterioration of the range" (Animal Protection Institute, 109 IBLA 119; 1989). The Interior Board of Land Appeals (IBLA) has also held that "Proper range management dictates removal of horses before the herd size causes damage to the rangeland. Thus, the optimum number of horses is somewhere below the number that would cause resource damage" (Animal Protection Institute, 118 IBLA 63, 75; 1991).

The upper level of the AML established within a HMA represents the maximum population at which a TNEB would be maintained. The lower level represents the number of animals to remain in a HMA following a wild horse gather, to allow for a periodic gather cycle, and to prevent the population from exceeding the established AML between gathers.

Additionally, gathering to the upper range of AML would result in the need to follow up with another gather within one year and could result in overutilization of vegetation resources, and

damage to the rangeland, and important wildlife habitats. Frequent gathers could increase the stress to wild horses, as individuals and as entire herds. This alternative would not meet the purpose and need for the action identified in section 1.2 of the EA or a TNEB. For these reasons, this alternative did not receive further consideration in this document.

Raising the AML for Wild Horses

Delay of a gather until the AMLs can be reevaluated is not consistent with the WFRHBA, Public Rangelands Improvement Act (PRIA) or FLPMA or the existing Pinyon MFP. Monitoring and other historical data collected within the HMAs do not indicate that an increase in AMLs is warranted at this time. On the contrary, such monitoring data confirms the need to remove excess wild horses above the AMLs to reverse downward trends, promote improvement of rangeland health and ensure safety and health of wild horses.

Severe range degradation would occur if an AML reevaluation process is initiated without gathering the excess animals and an even larger numbers of excess wild horses would ultimately need to be removed from the range in order to achieve the AMLs or to prevent the death of individual animals under emergency conditions. This alternative was eliminated from further consideration because it is contrary to the WFRHBA which requires the BLM to manage the rangelands to prevent the range from deterioration associated with an overpopulation of wild horses. Raising the AML where there are known resource degradation issues associated with an overpopulation of wild horses does not meet the Purpose and Need to Restore a TNEB or meet Rangeland Health Standards.

Population Growth Suppression Treatment Only Including Using Bait/Water Trapping to Dart Mares with PZP Remotely (No Removal)

This alternative was eliminated from further consideration as the sole method of applying fertility control vaccine due to the difficulties inherent in darting wild horses in the project area. Field darting of wild horses works in small areas with good access where animals are acclimated to the presence of people who come to watch and photograph them. The size of the Complex is very large (89,776 acres) and many areas do not have access. The presence of water sources on both private and public lands inside and outside the Complex would make it almost impossible to restrict wild horse access to be able to dart horses consistently. Horse behavior limits their approachability/accessibility, so that the number of mares expected to be treatable via darting would be insufficient to control growth. BLM would have difficulties keeping records of animals that have been treated due to common and similar colors and patterns. This formulation of PZP also requires a booster given every year following treatment to maintain the highest level of efficacy. Annual darting of wild horses in large areas can be very difficult to replicate and would be unreliable. For these reasons, this alternative was determined to not be an effective or feasible method applying population controls to wild horses from the Complex. Darting is included as a potential tool for use under the Proposed Action in areas that may be deemed suitable in the future, and to be implemented in concert with the other methods detailed in the Proposed Action.

Bait or Water Trap Only

An alternative considered but eliminated from detailed analysis was use of bait and/or water trapping as the primary gathering method. The use of bait and water trapping, though effective in

specific areas and circumstances, would not be timely, cost-effective, or technically feasible as the primary gather method for this HMA for the following reasons: (1) the project area is too large to effectively use this gather method; (2) road access for vehicles to potential trapping locations necessary to get equipment in/out as well as to safely transport gathered wild horses is limited; (3) the presence of scattered water sources on private, state, and public lands inside and outside the Complex would make it almost impossible to restrict wild horse access to the extent necessary to effectively gather and remove the excess animals through bait and/or water trapping to achieve management goals; and (4) the large number of horses that would need to be captured within a year period using only this method requires logistical resource (panels, trucks, trailers, personal etc.) that are not available to the local or state BLM. However, as discussed in the EA, water or bait trapping may be used to achieve the desired goals of the Proposed Action and Alternative 2 if gather efficiencies are too low using a helicopter, a helicopter gather cannot be scheduled, or to help maintain AML once achieved.

Controlling Wild Horse Numbers by Natural Means

This alternative was eliminated from further consideration because it is contrary to the WFRHBA which requires the BLM to prevent range deterioration associated with an overpopulation of wild horses. The alternative of using natural controls to achieve a desirable AML has not been shown to be feasible in the past (NRC 2013).

Survival rates for wild horses on western USA public lands are high (Ransom et al. 2016). None of the significant natural predators from native ranges of the wild equids in Europe, Asia, and Africa — wolves, brown bears, and African lions — exist on the wild horse ranges in the western United States (mountain lions are known to predate on horses, primarily foals, in a few herds (Andreasen et al. 2021), but predation contributes to biologically meaningful population limitation in only a handful of herds). In some cases, adult annual survival rates exceed 95% (ransom et al. 2016).

Many horse herds grow at sustained high rates of 15-25% per year and are not a self-regulating species (NRC 2013, Ransom et al. 2016). The National Academies of Sciences report (NRC 2013) concluded that the primary way that equid populations self-limit is through increased competition for forage at higher densities, which results in smaller quantities of forage available per animal, poorer body condition and decreased natality and survival. It also concluded that the effect of this would be impacts to resource and herd health that are contrary to BLM management objectives and statutory and regulatory mandates. This alternative would result in a steady increase in numbers, which would continually exceed the carrying capacity of the range until severe and unusual conditions that occur periodically – such as blizzards or extreme drought – caused catastrophic mortality of wild horses (see Appendix 11. Bible Spring 2022 Population Modeling) and irreparable damage to rangeland resources.

While some members of the public have advocated “letting nature take its course”, allowing horses to die of dehydration and starvation would be inhumane treatment and would be contrary to the WFRHBA, which mandates removal of excess wild horses. The damage to rangeland resources that results from excess numbers of wild horses is also contrary to the WFRHBA, which mandates the Bureau to “*protect the range from the deterioration associated with overpopulation*”, “*remove excess animals from the range so as to achieve appropriate*

management levels", and "*to preserve and maintain a thriving natural ecological balance and multiple-use relationship in that area*".

Title 43 CFR § 4700.0-6 (a) states "*Wild horses shall be managed as self- sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat*". As the vegetative and water resources are over utilized and degraded to the point of no recovery as a result of the wild horse overpopulation, wild horses would start showing signs of malnutrition and starvation. The weaker animals, generally the older animals, and the mares and foals, would be the first to be impacted. It is likely that a majority of these animals would die from starvation and dehydration which could lead to a catastrophic die off. The resultant population could be heavily skewed towards the stronger stallions which could contribute to social disruption in the HMAs. Competition between wildlife and wild horses for forage and water resources would be severe. Wild horses can be aggressive around water sources, and some wildlife may not be able to compete, which could lead to the death of individual animals. Wildlife habitat conditions would deteriorate as wild horse numbers above AML reduce herbaceous vegetative cover, damage springs and increase erosion, and could result in irreversible damage to the range. This degree of resource impact would likely lead to management of wild horses at a greatly reduced level if BLM is able to manage for wild horses at all on the HMAs in the future. For these reasons, this alternative was eliminated from further consideration. This alternative would not meet the Purpose and Need for this EA which it is to remove excess wild horses from within and outside the HMAs and to reduce the wild horse population growth rates to manage wild horses within established AML ranges for a TNEB.

Gather and Release Excess Wild Horses Every Two Years and Apply Two-Year PZP to Horses for Release.

This alternative would not meet the purpose and need and would be infeasible. Based on past gathers that the BLM has conducted in the Bible Spring Complex area, only 60-70% of the population can be gathered in a single gather operation due to excessive tree cover, vast area, terrain, and behavior of the target animals. Another alternative considered was to gather a substantial portion of the existing population (90 percent) and implement population growth suppression treatment only, without removal of excess horses. This was modeled using a two-year gather/treatment interval over a 10-year period. The effectiveness of the 22-month PZP-22 is somewhat in question based on the most recent pen trials which show diminishing effectiveness over time. Based on WinEquus population modeling, this alternative would not result in attainment of AMLs for the HMAs. The wild horse population would continue to have an average population growth rate of 10 percent to 18.6 percent, which would add to the current wild horse overpopulation, albeit at a slower rate of growth than would likely occur under the No Action Alternative.

This modeling reflected an average population size in 11 years of 1,424 to 2,722 total wild horses under a two-year treatment interval. In 90 percent of the modeled trials, this alternative would not decrease the existing overpopulation of wild horses, resource concerns and rangeland deterioration would continue, and implementation would result in substantially increased gather and population growth suppression costs relative to the alternatives that remove excess wild horses to the AML range.

Use of Gelding as Non-reproductive Population to Reduce Population Growth Rate
This alternative would not meet the purpose and need identified in section 1.2 of the EA. A non-reproductive population of gelding was excluded from further consideration at this time due to there being more effective ways to adequately reduce the female horse fertility rates within the Complex. Moreover, by itself, it is unlikely that sterilization (gelding) would allow the BLM to achieve a population within AML or other management objectives of reducing population growth rate since a single stallion is capable of impregnating multiple mares, and stallions other than the dominant harem stallion may also breed with some mares. Therefore, to be fully effective, use of sterilization to control population growth requires that either the entire male population be gathered and treated (which is not practical) or that some percentage of the female wild horses/burros in the population be gathered and treated. If the treatment is not of a permanent nature (e.g., application of the PZP-22 vaccine to mares) the animals would need to be gathered and treated on a cyclical basis.

Allow Public to Capture and Remove Wild Horses
An alternative using members of the public to gather wild horses through a permitting process has previously been suggested by the public. This alternative was eliminated from further consideration because it is contrary to the WFRHBA. The WFRHBA placed all wild free-roaming horses and burros that occur on public lands under the jurisdiction of the Secretary of the Interior and Secretary of Agriculture for the purpose of management and protection in accordance with the provisions of that Act. It places penalties on members of the public that willfully remove or attempt to remove a wild free-roaming horse or burro from the public lands without authorization. The WFRHBA would need to be changed to allow this type of alternative. An administrative process to implement this alternative, which currently does not exist, would need to be developed.

Use Alternative Capture Techniques Instead of Helicopters to Capture Excess Wild Horses
An alternative using capture methods other than helicopters and bait/water trapping has previously been suggested by the public. These alternate methods could include chemical immobilization, net gunning, and wrangler/horseback drive trapping as potential methods for gathering horses. Net gunning techniques normally used to capture big game also rely on helicopters. Chemical immobilization is a very specialized technique and is strictly regulated. Currently, the BLM does not have sufficient expertise to implement either of these methods, and they would be impractical to use given the size of the Bible Spring Complex, access limitations, and approachability of the horses.

Use of wrangler on horseback drive-trapping to remove excess wild horses can be somewhat effective on a very small scale, but due to the number of excess horses to be removed to bring the population to within AML, the large geographic size of the Bible Spring Complex, access limitations, and approachability of the horses, this technique would be ineffective and impractical. The BLM's experience with other gathers is that wild horses often outrun and outlast domestic horses carrying riders. Helicopter assisted roping is typically only used if necessary and when the wild horses are in close proximity to the gather site. Horseback drive-trapping is also very labor intensive and can be very harmful to the domestic horses and the wranglers used to herd the wild horses. For these reasons, this method was eliminated from further consideration.

Designate the Complex to be Managed Principally for Wild Horse Herds Under 43 C.F.R. 4710.3-2.

Wild horse HMAs are designated as part of the BLM's land use planning process for the long-term management of wild horses. The CCFO does not administer any designated Wild Horse or Burro Ranges, which under 43 C.F.R. 4710.3-2 are "to be managed principally, but not necessarily exclusively, for wild horse or burro herds." There are currently only four designated Wild Horse or Burro Ranges. This alternative would involve no removal of wild horses and would instead address excess wild horse numbers through removal or reduction of livestock within the Complex. In essence, this alternative would exchange use by livestock for use by wild horses. Because this alternative would mean converting the Complex to wild horse Ranges and modifying the existing multiple use relationships established through the land-use planning process, it would first require an amendment to the MFP or a new RMP, which is outside the scope of this EA. This alternative was not brought forward for analysis because it is inconsistent with the 1983 Pinyon MFP and the WFRHBA, which directs the Secretary to immediately remove excess wild horses where necessary to ensure a TNEB and multiple use relationship. This alternative is also inconsistent with the BLM's multiple use management mission under FLPMA. Changes to or the elimination of livestock grazing cannot be made through a wild horse gather decision. Furthermore, even with significantly reduced levels of livestock grazing within the gather area relative to the permitted levels authorized in the Pinyon MFP, there is insufficient habitat for the current population of wild horses, as confirmed by monitoring data. As a result, this alternative was not analyzed in detail.